

Cloudflex Cloud Computing

Presentation to West Africa
Peering Forum 2021 by Aderemi
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Internet Society

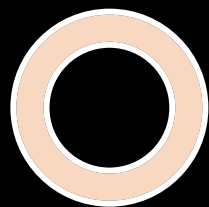




The Beginning

- Cloudflex started in 2016 as Comercio Cloud Computing Services.
- Setting up a Cloud platform in Nigeria
- No real Cloud platform in Nigeria at the time
- Cloud Computing saves 70% of the TCO
- Fastest growing sector of technology
- Cloud is the future – Base of AI, ML, IoT & Edge computing





Strategy

- We chose Rackcentre as our primary Data Centre to use
- We initially went for DELL kit
- Later changed to Huawei
- We chose Vmware as our Hypervisor layer
- Established a NOC at Rackcentre



Current Status

- Built two cloud platform
- A third platform will be available by Aug 2021
- Vmware cloud verified
- Built to the latest versions of Vmware stack
- Created DevOps platform
- Access to the Bitnami marketplace

Vmware Multi-Cloud

vmware®

aws

Microsoft
Azure

Google Cloud

Alibaba Cloud

IBM Cloud

ORACLE®

Build

Run

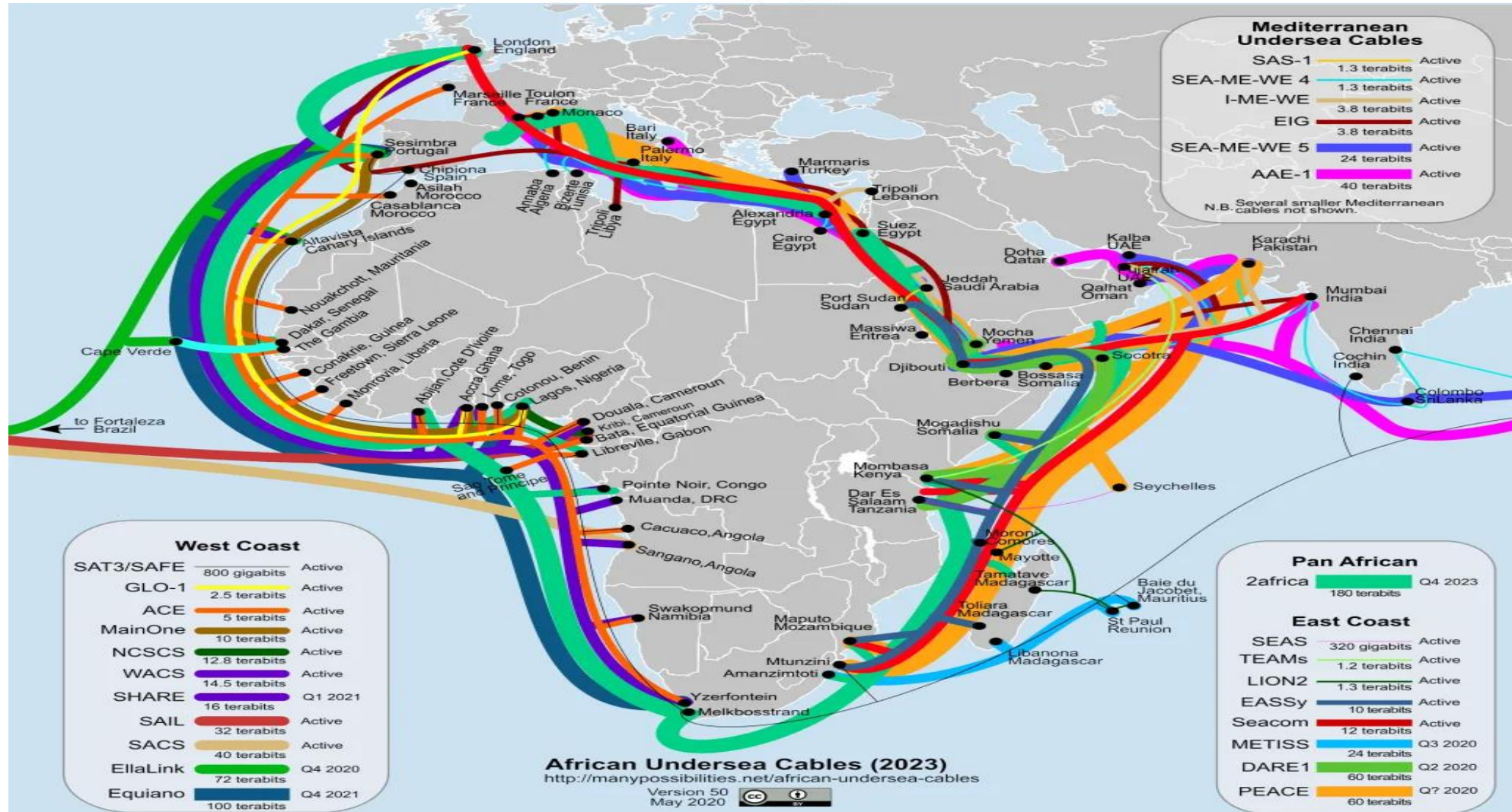
Manage

Connect

Protect

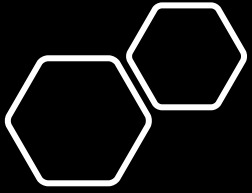
Any Application on Any Cloud

Internet and last mile



Future of undersea cables

- Equiano – Google led undersea cable
 - 100 tbps bandwidth
 - First phase ready 2021
- 2Africa – Facebook led undersea cable
 - 37,000km of cables, 21 landings, 16 African countries
 - 180tbps bandwidth
 - Expected completion by 2024
- Google , Microsoft, Facebook & Amazon own or lease more than half the undersea cabling
- Currently 8 active cables in Africa



Data Centre

- Data Centre provides accommodation, power, cooling, networking, and security for IT equipments.
- A Data centre offers greater security for housing corporate IT infrastructure.
- It provides an economy of scale for all the components especially power.
- Key component of a Data centre is the provision of uninterrupted power supply.

Name	Tiering	Location	Level
Rackcentre	Tier III	Ikeja, Lagos	By construction
Mainone	Tier III	Ogombo, Lagos	By construction
Galaxy Backbone	Tier III	Abuja	By design
Cloud Exchange	Tier IV	Ikoyi, Lagos	By design
21 st Century	Tier IV	Lekki, Lagos	By design
GTBank Data Centre*	Tier III	Ikoyi, Lagos	By design
MTN	Tier III	Ojota, Lagos	By design
Etisalat	Tier II	Abuja	By design

Tiering Explained

- Worldwide standard for Data Centre maintained by Uptime institute.
- There are four tiers defined for the Data centre standards.

Tier I

Basic capacity, must include UPS. 99.671% uptime. Allows 28.8 hrs of downtime.

Tier II

Redundant capacity cooling. 99.741% uptime. Allows 22 hours of downtime.

Tier III

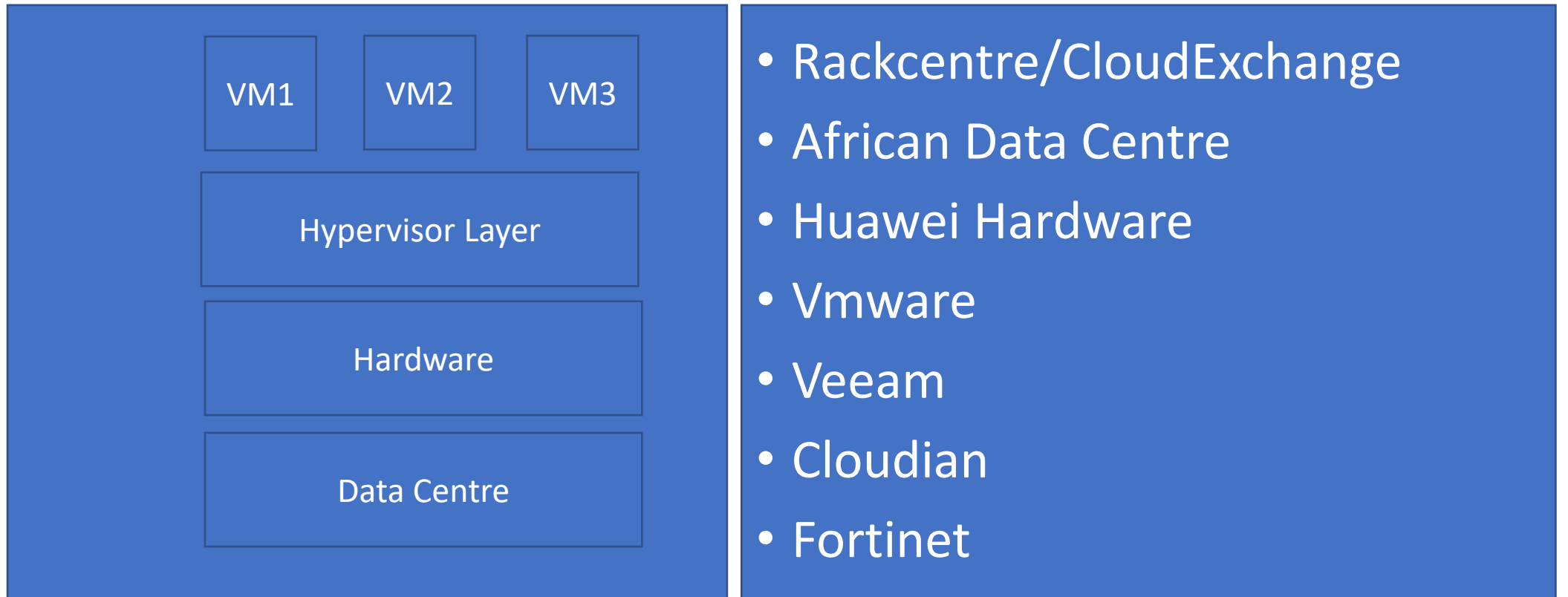
Concurrent and maintainable components. 99.982% uptime. Allows 1.6 hours of downtime.

Tier IV

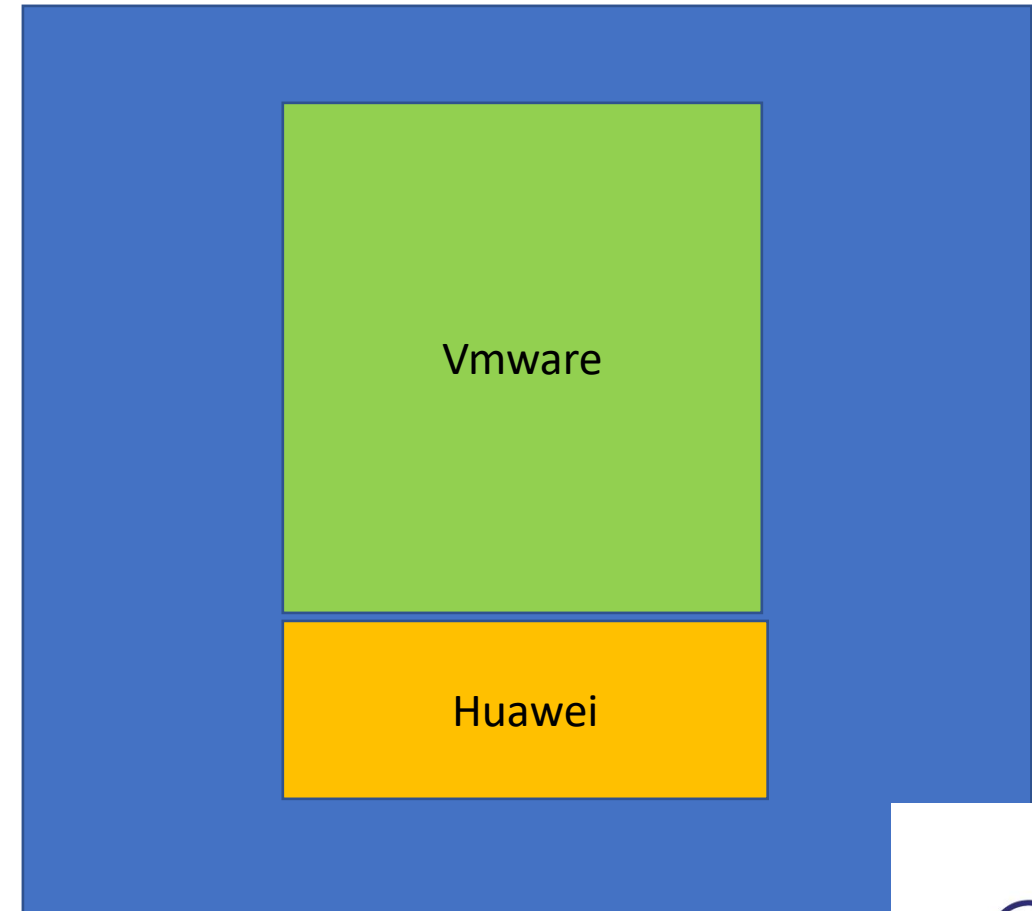
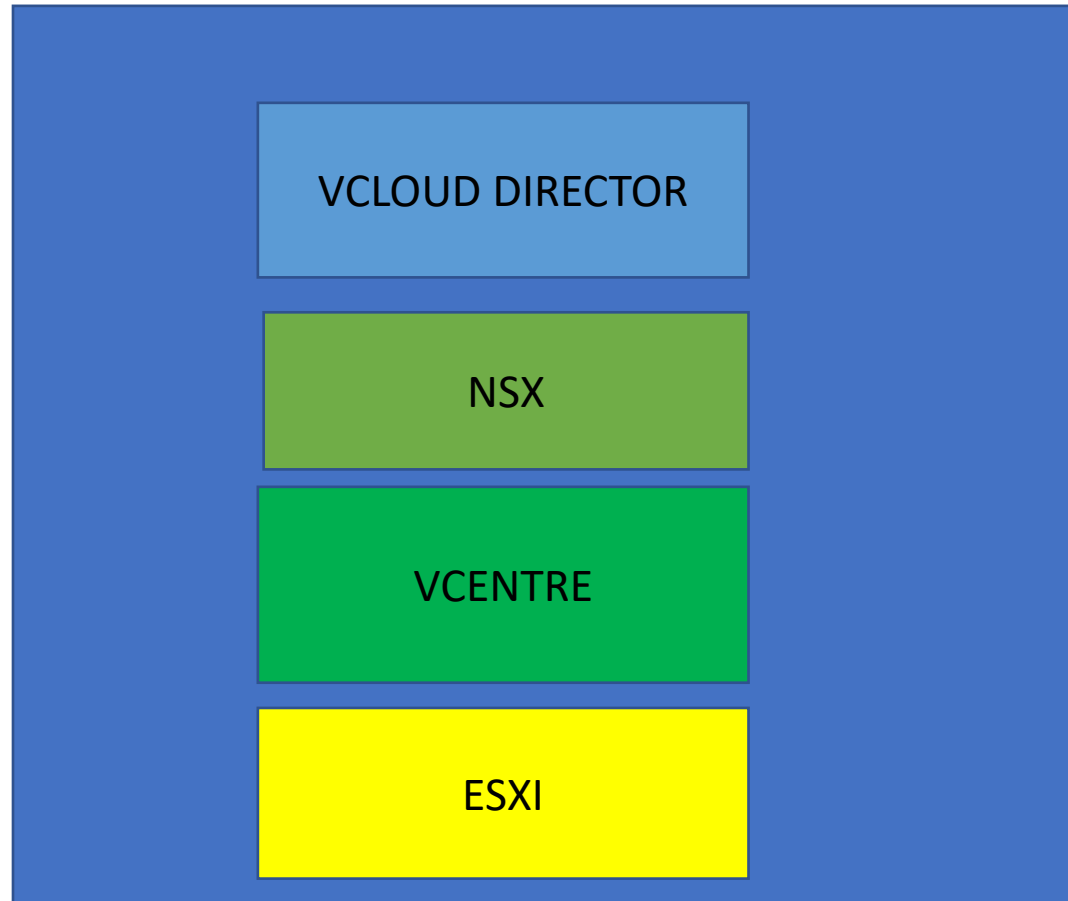
Production capacity insulated from failure. 99.995% uptime. Allows up to 26.3 mins of downtime



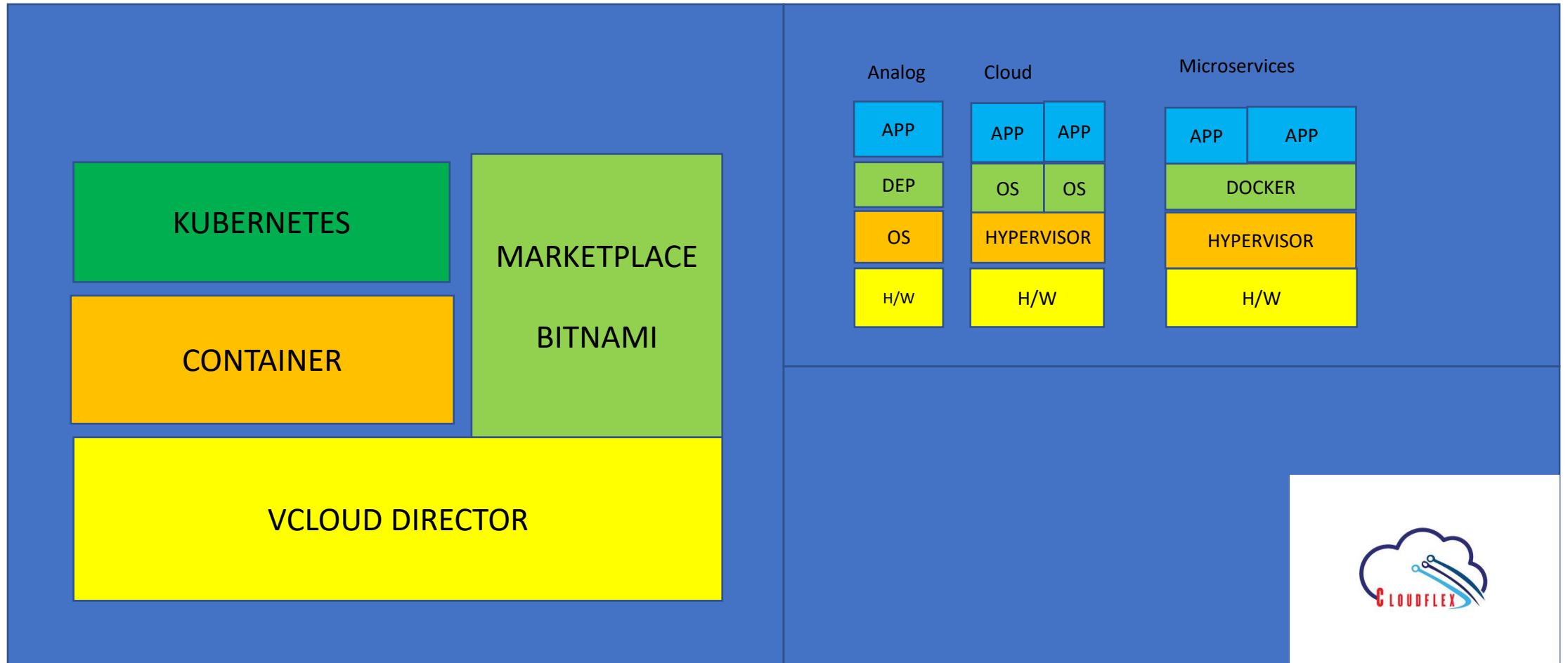
Cloud Platform



Cloudflex Cloud Architecture

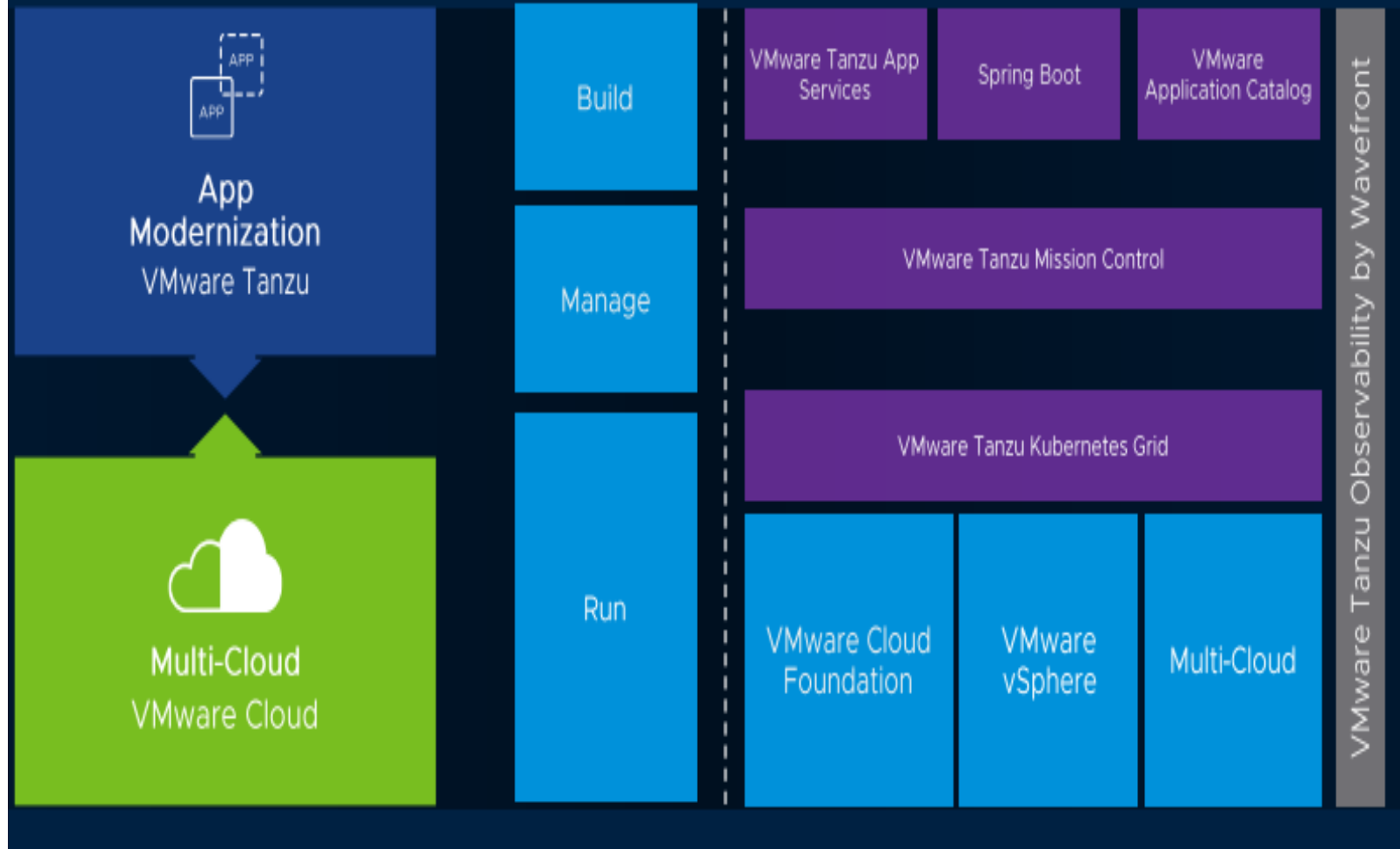


Cloudflex DevOps



Devops Platform

VMware Tanzu + VMware Cloud Foundation: The Complete Stack for Traditional and Modern Apps





Our Products and Services

- Infrastructure as a Service
 - Backup as a Service
 - Storage as a Service
 - Archiving as a Storage
 - Disaster Recovery as a Service
 - Managed Co-location
 - DevOps Platform
 - Developers Platform
- 

Advantages of Local Cloud Platform

- Data Sovereignty/Data Localisation
- Data Latency
- Connectivity – No egress costs
- Exchange rate fluctuation
- Opex to Capex
- Pay for what you use
- No local repository for
 - Music
 - Films
 - Large Datasets – (ML, AI, IoT)
 - Credit Agency



Competitors

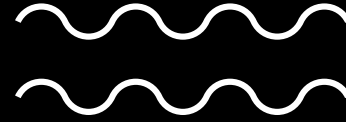
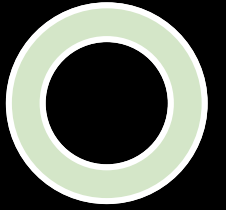
- Local
 - Mainone
 - MTN
 - Layer3
 - Cyberspace/Cybercloud

International
Microsoft Azure
Amazon AWS
Google Cloud Platform
Oracle
IBM



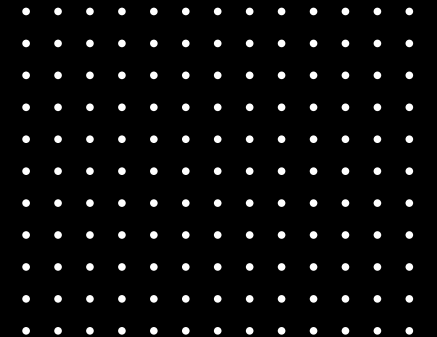
Economics

- Companies have had lower revenues and hence lower IT spend
- WFH/Remote working has made cloud more attractive
- On-premise kit reaching EOL have a high replacement cost
- Clouds offers TCO cost savings of over 70%
- Agility, Speed to market, low risk, high security , more efficient use of resources.



- African cloud market is about \$1.7BN mainly in South Africa, Kenya and Nigeria.
- Expected to grow by over \$2 BN in the next five years
- Actis invested \$250m in Rackcentre in 2020
- Liquid Telecom is investing \$100m in two new Data centres . The first at Eko Atlantic
- Nigeria Cloud market is worth between \$100m - \$450m

Cloud Market



SWOT
ANALYSIS
OF LOCAL
HOSTING



**LOW
LATENCY**

PROXIMITY



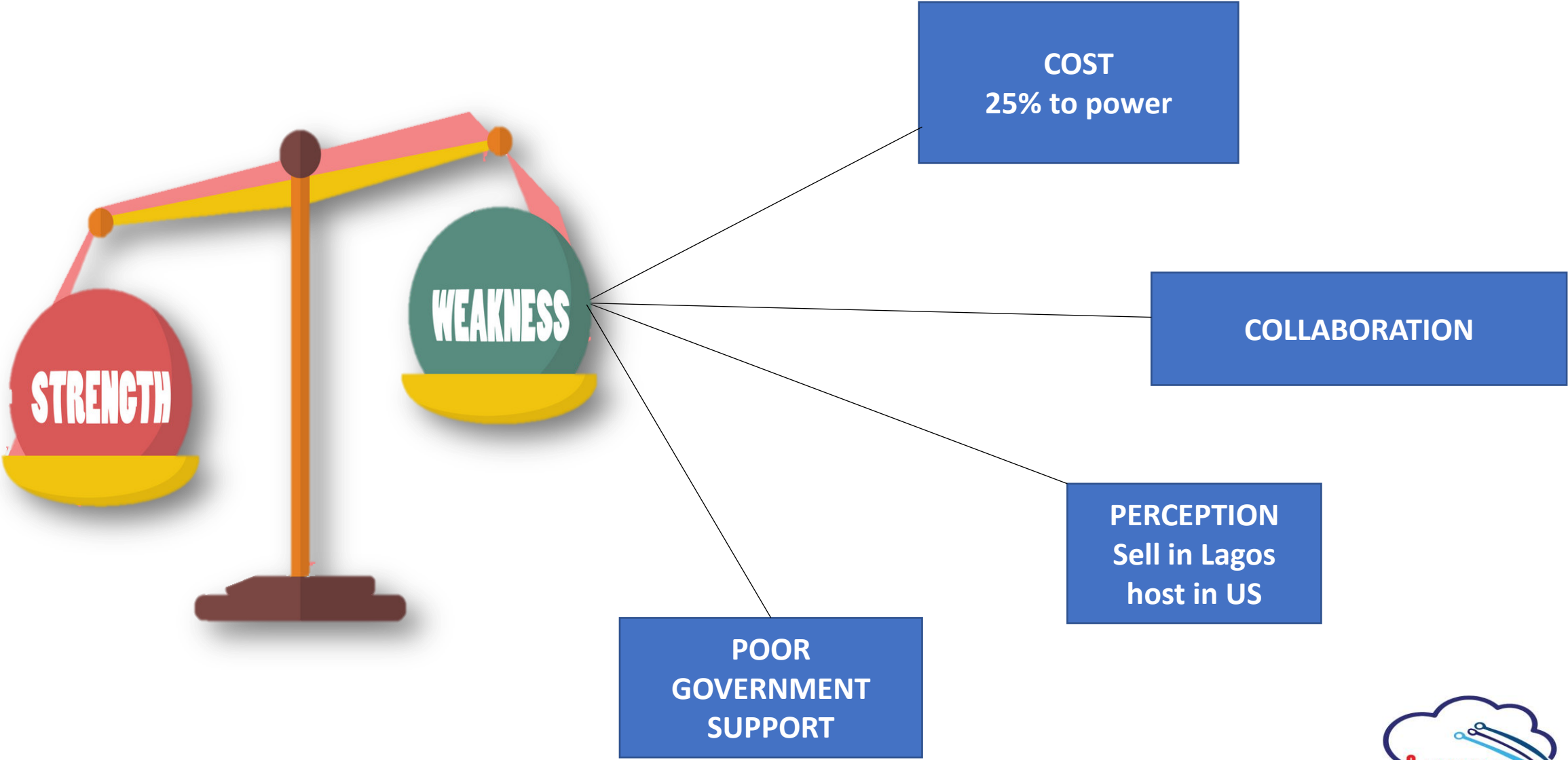
STRENGTHS

DURATION

**LOCAL LAW
ADHERENCE**



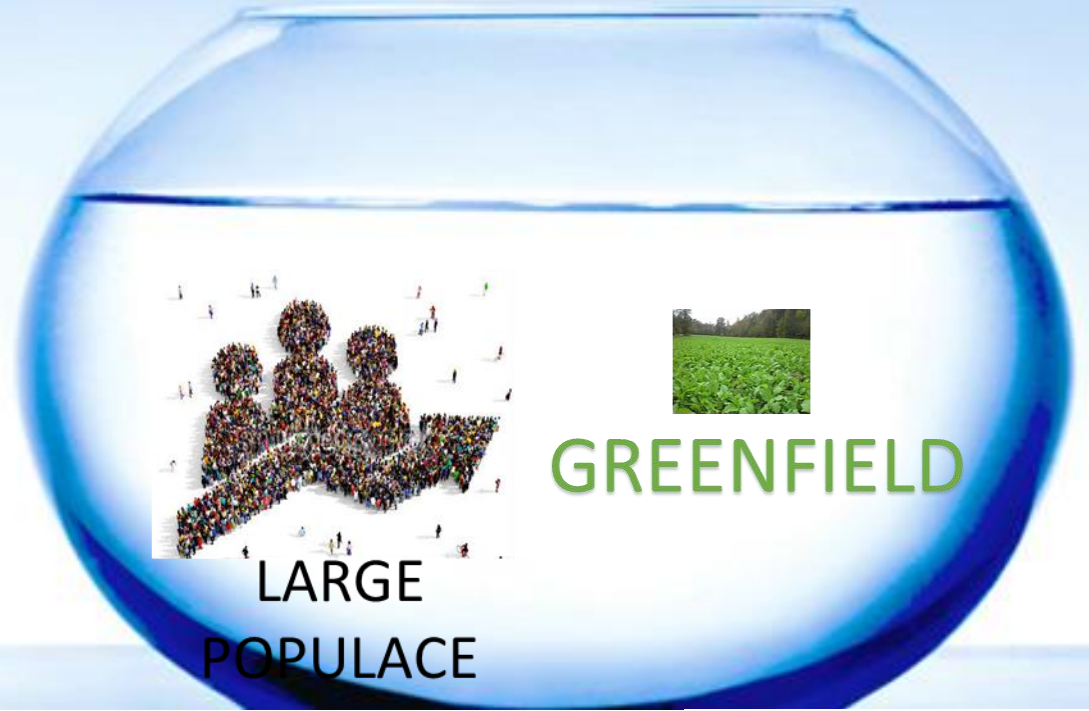
WEAKNESSES





OPPORTUNITIES

OPPORTUNITIES



THREAT

**X LACK OF
COLLABORATION**

**X HIGH COST OF
DOING BUSINESS**

**X LACK OF FINANCIAL
SUPPORT**

X POOR KNOWLEDGE



THE END

